

نموذج توصيف مقرر
Course Description Form

Name of College\Faculty : Science
Name of Department: Biological Sciences

اسم الكلية:
اسم القسم العلمي:

Course Name	Micro-Techniques and Microscopy تقنيات دقيقة ومجهرية	اسم المقرر
Course No.	0495-107	رقم المقرر
No. of Credits	3	عدد الوحدات
Theoretical Hours	2	عدد الساعات النظرية
Practical Hours	1	عدد الساعات المحلية
Course topics		مواضيع المقرر
1. The Scope of Microbiology. 2. General microbiology laboratory equipment and their uses. 3. Light and Electron Microscopy. 4. Isolation, cultivation and maintenance of microorganisms. 5. Microbial taxonomy and identification techniques. 6. Principles of microbial control. 7. Professional ethics.		
Text book: (Name, Author , Year , Publisher)		عنوان الكتاب : (الاسم ، المؤلف ، سنة الطبع ، دار النشر)
1. Prescott, Willey, Sherwood, and Woolverton. 2020. Microbiology. 11th edition. McGraw Hill. New York, USA. 2. Tortora, Funke and Case. Recent edition. Microbiology, An Introduction. Benjamin/Cummings publishing company. California, USA.		
References: (Name , Author , Year . Publisher)		عنوان المرجع : (الاسم ، المؤلف ، سنة الطبع ، دار النشر)
Brock, Madigan, Martinko and Parker. Biology of Microorganisms. 2008. 12th edition. Prentice Hall. New York, USA.		

Prerequisites 0490-105, 0420-110, 0420-111	متطلبات المقرر
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Grading	Exams	20	%		الاختبارات	آلية رصد المقرر
	Quizzes	8	%		امتحانات قصيرة	
	H.W.	2	%		واجبات	
	Project (field study, Lab)	30	%		مشاريع (دراسة ميدانية)	
	Final	40	%		الاختبار النهائي	
	%					

أهداف مخرجات المقرر :					
الرقم	أهداف مخرجات المقرر :			المستوى المطلوب من عضو هيئة التدريس لتحقيق الهدف :	
	أمثله من المقرر لتحقيق هذه الأهداف			عالي	متوسط
1					
2					
3					
4					
5					
الحقول					
المهارات					
منسق المقرر (اسم عضو هيئة التدريس المشرف على توصيف المقرر ، توقيعه ، الختم و الرتبة الأكاديمية)					
تاريخ إعداد النموذج					/ /

Course objectives					
No.	Course Objectives (Learning Outcomes)	Example(s) of relevant (Topics and activities)	Recommended Level to satisfy the objectives		
			High	Medium	Low
1	Introduce the science of microbiology and recognize the classification, diversity, and general characteristics of major groups of microorganisms.	To identify and characterize different groups of microorganisms in terms of their cellular structure and function, metabolism, as well as genetic variation.		✓	

2	Develop practical skills in handling, operating, and maintaining common microbiological laboratory equipment and microscopes (light and electron).	Describe the uses of the common equipment in a microbiology lab. Describe the principle of light microscope, electron microscope and their different types and their application.	✓		
3	Understand and apply microbiological techniques for specimen preparation, cultivation, isolation, enumeration, and maintenance of microorganisms using appropriate media.	Define a pure culture. Describe different types of media used to grow microorganisms in the lab and their components. Explain the different techniques used in the microbial isolation and purification.	✓		
4	Describe microbial taxonomy and identification methods, emphasizing principles used to classify and differentiate microorganisms.	Describe the classical and molecular techniques used for microbial identification.	✓		
5	Explain and compare physical and chemical methods used to control microbial growth.	Differentiate between terms used to describe different methods used to control microbial control chemically and physically.	✓		
6	Demonstrate understanding of professional ethics and responsible conduct in scientific research.	Identify unethical practices in microbiology research and their solution.		✓	
Fields	Microbiology, Microscopy, Microbiological Laboratory Techniques, Microbial Taxonomy and Identification, Microbial control.				



Skills	Microscopy and imaging, Microbial culturing, Microbial enumeration, Microbial identification.
Coordinator (Name and Rank) :	Dr. Haya Al-Sammar, Assistant Professor
Signature and stamp :	د. هيا السمار قسم العلوم البيولوجية كلية العلوم - جامعة الكويت
Date:	30\ 10 \2025